

1. An apparatus for the generation of sanitizing chemicals, the apparatus comprising:
  - a buoyant enclosure;
  - a plurality of electrodes extending outward from the buoyant enclosure;
  - a power source disposed within the buoyant enclosure; and
  - a polarity reversing module electrically connected to the plurality of electrodes.
2. The apparatus of claim 1, wherein the buoyant enclosure comprises an upper buoyant housing and a lower buoyant housing disposed to one side of the upper buoyant housing.
3. The apparatus of claim 1, wherein the buoyant enclosure is configured to float freely within a body of water
4. The apparatus of claim 2, wherein the upper and lower buoyant housings comprise a floatable composite plastic material.
5. The apparatus of claim 1, wherein the buoyant enclosure is configured with a polyhedral shape.
6. The apparatus of claim 1, wherein the buoyant enclosure is configured with a photovoltaic cell attached to each side of the polyhedron.
7. The apparatus of claim 1, wherein the buoyant enclosure comprises a polyhedron of eight sides.

1           8.     The apparatus of claim 7, wherein the buoyant enclosure comprises one  
2     central photovoltaic cell and 8 photovoltaic cells each of which is attached to one side of the  
3     enclosure.

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5           9.     The apparatus of claim 7, wherein the sides of the buoyant enclosure are  
6     configured to be at an incline set at an angle in the range of between about 30° and 45°.

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8           10.    The apparatus of claim 1, wherein the plurality of electrodes comprises at  
9     least two electrodes.

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11          11.    The apparatus of claim 1, wherein the plurality of electrodes comprises a  
12     metal electrode coated with an oxidizer coating thereby configured to resist the formation of  
13     scale, and prevent corrosion.

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15          12.    The apparatus of claim 1, wherein the power source comprises a replaceable  
16     power supply.

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18          13.    The apparatus of claim 1, wherein the power source comprises a renewable  
19     power supply.

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21          14.    The apparatus of claim 13, wherein the renewable power supply comprises a  
22     photovoltaic solar panel.

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24          15.    The apparatus of claim 13, wherein the renewable power supply comprises a  
25     plurality of photovoltaic solar panels.

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16. The apparatus of claim 15, wherein the plurality of photovoltaic solar panels comprise a centrally situated solar panel and a plurality of side solar panels, one situated on each side of the polyhedron shaped buoyant enclosure.

17. The apparatus of claim 1, wherein the polarity-reversing module is configured to alternate the polarity of the electrodes in order to prevent chemical accumulation on the surface of the electrodes.

18. The apparatus of claim 17, wherein the polarity-reversing module is configured to reverse the polarity of the electrodes at a selected time interval.

19. The apparatus of claim 17, wherein the polarity-reversing module comprises a timing circuit configured to provide an input to a plurality of contact relays to reverse the polarity applied to the plurality of electrodes at every occurrence of the selected time interval.

20. The apparatus of claim 19, wherein the selected time interval is in a range from between about 1 to 72 hours.

21. An apparatus for the generation of sanitizing chemicals, the apparatus comprising:

- an enclosure;
- a plurality of electrodes extending outward from the enclosure;
- a power source for powering the plurality of electrodes;
- a polarity reversing module electrically connected between the plurality of electrodes and the power source;

1           22.    An apparatus for the generation of sanitizing chemicals, the apparatus  
2 comprising:

3                   a buoyant enclosure configured to be capable of free-floating within a body  
4 of water;

5                   a plurality of electrodes extending outward from the buoyant enclosure; and

6                   a plurality of photovoltaic solar panels disposed within the buoyant  
7 enclosure.  
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